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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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RAYMOND A. MILLER, ESQ.
BENESCH, FRIEDLANDER, COPLAN & ARONOFF, LLP
2300 BP TOWER
200 PUBLIC SQUARE
CLEVELAND, OH 44114-2378

EXAMINER	
SHEINBERG, MONIKA B	
ART UNIT	PAPER NUMBER
1634	

DATE MAILED: 02/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/580,110	MITTS ET AL.	
	Examiner	Art Unit	
	Monika B Sheinberg	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 October 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-8 and 10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-8 and 10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *Detailed Action.*

DETAILED ACTION

Response to Amendment filed October 17, 2003

1. Applicants' arguments, filed 17 October 2003, have been fully considered but they are not deemed to be persuasive. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

2. The cancellation of claims 4 and 9 are acknowledged.

3. Claims 1-3, 5-8 and 10 are pending and hereby examined, as they pertain to the election of Group I drawn to a composition of a retinoid and a peptide selected from the group consisting of SEQ ID NO: 17, 45-53 and 54. It is noted that claims 1, 6, and 10 continue to recite non-elected inventions.

MAINTAINED REJECTIONS

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. The rejection of claims 1, 3, 5-8 and 10 is reiterated and maintained under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 11, 13, 19, 20, 27, 18 and 30 of U.S. Patent No. 6,069,129 ('129); filed March 13, 1998; in view of Kligman (US Patent 4,877,805; 31-Oct-1989) and Sheffield *et al.* (EP 0-339-0905-A2; 02-Nov-1989). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the instant application comprise SEQ ID NO: 17 both in composition and a method of treatment (skin enhancement) as required by the claims of '129. Therefore the claims of '129 read on the claims of the instant application. The reference does not teach the use of a retinoid as an additional skin-enhancing agent as required by the claims.

6. Kligman teaches the utilization of retinoids (claims 1 and 7) and its derivatives (tretinoin, an all-trans retinoic acid) in therapeutic cosmetic compositions for application to improving damaged human skin (claim 6) in an effective amount that would not cause irritation (abstract). Examples of such applications are seen in all four experimental examples (columns 8-10) in which tretinoin is shown to be as effective as 13-cis retinoic acid in a lower concentration. The reference lists and details several benefits in the use of retinoid in an effective amount without causation of irritation, as seen below (columns 4-5, beginning on line 55):

a) Increased proliferative activity of epidermal cells. [...] The stimulation of cell growth also results in faster wound healing. [...] Application of the retinoid tretinoin, vitamin A, or all-trans retinoic acid before raising the blisters halves the healing time. [...]
b) Correction of abnormalities of differentiation. [...] Fewer growths appear and progression to cancer is halted. Normalizing of the epidermis results in a smoother, less dry and rough skin, [...] thus improving the topography of the skin. [...]
c) The metabolism of fibroblasts is increased [...thus resulting in] strengthening the physical foundation of the skin. [...and] effacement and prevention of fine wrinkles and lines.
d) Vascularity is increased.

Thus Kligman clearly demonstrates the ability and advantages of utilizing retinoids as skin-enhancing agents.

7. Sheffield *et al.* demonstrates the use of retinoids as an effective wound healing agent in compositions that comprise at least one peptide and a retinoid. The selected peptides are selected for mitogenic or angiogenic activity such as epidermal growth factors for their ability to stimulate cell growth in order "to stimulate the wound healing process" (p. 2, lines 22-23).

Retinoid and its derivatives are demonstrated to be utilized for enhancing the effectiveness of the administered peptides for reasons that they "affect differentiation, maintenance and proliferation of many cell types" (lines 37-40) as experimental research further suggested that retinoic acid "increases the mitogenic activity of epidermal growth factor and its binding to its cell surface receptors in vitro" (lines 46-47). Example 1 on page 5, demonstrates the use of all-trans retinoic acid (tretinoin) in a "general cream formulation" along with a peptide that can be used in "[o]ptionally minor amounts of other commonly used cosmetic adjuvants, additives and the like" (lines 10-34). As a wound healing composition that can be utilized in cosmetic products, the purpose of the composition and method of use of the instant invention (skin enhancement) is encompassed by the reference. Thus Sheffield *et al.* demonstrates the ability and advantages of using retinoids with peptide compositions for cosmetic or therapeutic purposes.

8. It would have been *prima facia* obvious for one of ordinary skill in the art at the time the invention was made to make the cosmetic and/or dermatological polymer composition and method of treatment as per the claims of Sandberg *et al.*; and modify the claims to include retinoids such as all-trans retinoic acid as per the teachings of Kligman and Sheffield *et al.* The ordinary artisan would have been motivated to modify the claims in view of the use of retinoids as taught by Sheffield *et al.* for the purpose of improving the method of the claims because of the benefits of using retinoids in cosmetic applications as taught by Kligman. From the teachings of the prior art, the ordinary artisan would have been taught that a retinoid, known for its ability to be utilized in cosmetic and therapeutic compositions for damaged skin (teachings of Kligman) and wound healing (teachings of Sheffield *et al*), was a beneficial skin enhancing agent to add to a cosmetic and/or dermatological composition for the purposes of enhancing or improving skin elasticity or turgor. The ordinary artisan would have also been taught that tretinoin was useful as the retinoid due to its effectiveness in low concentrations (teachings of Kligman, see examples 2-4, columns 8-10) and its benefits as a retinoid in such compositions as per the teachings of Kligman. Therefore, given the claims in view of Kligman and Sheffield *et al* as outlined above, it would have been *prima facie* obvious to the ordinary artisan at the time the invention was made to improve upon the method of the claims and include the use of a retinoid as a skin enhancing agent for use in cosmetic and/or dermatological compositions and methods as taught

by Kligman and Sheffield *et al.* The ordinary artisan would have had a reasonable expectation of success in the addition of retinoids with peptidic compositions because Sheffield *et al* demonstrates the use of other healing peptides specifically in a combined composition with retinoids for cosmetic and therapeutic applications. One of ordinary skill in the art would have been motivated to use the polymer of the claims instead of those of Sheffield *et al.* because Sandberg *et al.* teaches that elastin derived peptides or homologous elastin peptides are the "best [in accomplishing] an increase in tissue elasticity and turgor" (column 2, lines 35-40).

Response to Arguments

9. Applicants argue that none of the references teach or suggest the SEQ ID NOs: 45-54. This is not found persuasive because the instant invention has been examined as directed to the election of Group I, a composition containing a retinoid and **a peptide** wherein the peptide is selected from the group consisting of SEQ ID NOs: 17, 45-53 and 54. Therefore the teachings of SEQ ID NO: 17 and a retinoid both in composition and a method of treatment (skin enhancement) demonstrate the requirements of the instant claims. As per applicants' response to the restriction/election filed: 22 May 2003, applicants clearly (albeit with traverse) elected Group I and SEQ ID NO: 17 (see pp. 1 and 3) which is directed to a composition of a retinoid and a peptide. It is to be noted that with the election of Group I, applicants were invited to provide additional sequences that were related and contained the elected single sequence. Applicants further requested SEQ ID NOs: 45-54. [Applicants did not elect Group II, which is directed to a composition of a retinoid and a **combination of peptides**. The additional sequences requested (SEQ ID NOs: 45-54) were not to a specific combination to be in composition with a retinoid]. Further, in the response, applicants did not assert on the record that SEQ ID NO: 45-54 were equivalent to or obvious over SEQ ID NO: 17. Therefore, applicants' arguments that none of the cited references teach SEQ ID NOs: 45-54, were found persuasive. The rejections maintained from the previous office action, no longer assert that SEQ ID NOs: 45-54 are equivalent or obvious over SEQ ID NO: 17 with regard to the cited prior art. However, neither the amendment to the claims, nor applicants arguments are sufficient to overcome the rejections reiterated above, because the claims remain drawn to the elected invention of a composition, or method of using a composition of a retinoid and a peptide selected from the group consisting of SEQ ID NOs: 17,

45-53 and 54. As the references cited in combination, teach a composition and method of using a composition comprising a retinoid and SEQ ID NO: 17, the assertion that the references do not teach SEQ ID NOs: 45-54 alone or in combination, is insufficient to overcome the rejection.

10. Applicants argue that '129 (or Sandberg *et al*) fails to teach or suggest any retinoids, Kligman fails to suggest or teach any peptide, and Sheffield *et al.*, directed to wound healing, fails to teach or suggest the substitution of the growth factors with any other peptide. These arguments are not found persuasive because as per the MPEP 2145, IV "One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co., Inc., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986)." As stated above, it would have been *prima facia* obvious for one of ordinary skill in the art at the time the invention was made to make the cosmetic and/or dermatological polymer composition and method of treatment, as per the claims of Sandberg *et al.*; and modify the claims to include retinoids such as all-trans retinoic acid as per the teachings of Kligman and Sheffield *et al.* The ordinary artisan would have been motivated to modify the '129 claims in view of the use of retinoids as taught by Sheffield *et al.* for the purpose of improving the method of the '129 claims because of the benefits of using retinoids as taught by Kligman. Further Sheffield demonstrates the beneficial use of a retinoid and a peptide, in wound healing, for example. In addition, Sheffield was cited as an illustration of the state of the art at the time the invention was made – namely – that treatment compositions of retinoids and peptides were known and used in the art.

11. Further applicants argue that "there is no motivation or teaching to modify SEQ ID NO: 17 [...or] the use of these specific peptide sequences in combination with retinoids. This is not found to be persuasive because elected invention does not require any modification of SEQ ID NO: 17, nor the use of the other peptides (SEQ ID NO: 45-54) in combination with SEQ ID NO: 17, but are drawn to the use of any one of SEQ ID NO: 17 and 45-54. As such the rejection is based upon the teaching of SEQ ID NO: 17.

12. For these reasons and the reason reiterated above in the rejection, the rejection is maintained.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. The rejection of claims 1-3, 5-8 and 10 is reiterated and maintained under 35 U.S.C. 103(a) as being unpatentable over WO 99/45941 (16-Sept-1999) in view of Kligman (US Patent 4,877,805; 31-Oct-1989) and Sheffield *et al.* (EP 0-339-0905-A2; 02-Nov-1989).

15. WO 99/45941 teaches SEQ ID NO: 17 and its use as a cosmetic or therapeutic formulation, preferably for enhancing skin (see SEQ ID NO: 17 of the reference). The reference does not teach the use of a retinoid as an additional skin-enhancing agent as required by the claims.

16. Kligman teaches the utilization of retinoids (claims 1 and 7) and its derivatives (tretinoin, an all-trans retinoic acid; claims 2 and 8) in therapeutic cosmetic compositions for application to improving damaged human skin (claim 6) in an effective amount that would not cause irritation

(abstract). Examples of such applications are seen in all four experimental examples (columns 8-10) in which tretinoin is shown to be as effective as 13-cis retinoic acid in a lower concentration. The reference lists and details several benefits in the use of retinoid in an effective amount without causation of irritation, as seen below (columns 4-5, beginning on line 55):

a) Increased proliferative activity of epidermal cells. [...] The stimulation of cell growth also results in faster wound healing. [...] Application of the retinoid tretinoin, vitamin A, or all-trans retinoic acid before raising the blisters halves the healing time. [...]
b) Correction of abnormalities of differentiation. [...] Fewer growths appear and progression to cancer is halted. Normalizing of the epidermis results in a smoother, less dry and rough skin, [...] thus improving the topography of the skin. [...]
c) The metabolism of fibroblasts is increased [...thus resulting in] strengthening the physical foundation of the skin. [...and] effacement and prevention of fine wrinkles and lines.
d) Vascularity is increased.

Thus Kligman clearly demonstrates the ability and advantages of utilizing retinoids as skin-enhancing agents.

17. Sheffield *et al.* demonstrates the use of retinoids as an effective wound healing agent in compositions that comprise at least one peptide and a retinoid. The selected peptides are selected for mitogenic or angiogenic activity such as epidermal growth factors for their ability to stimulate cell growth in order "to stimulate the wound healing process" (p. 2, lines 22-23). Retinoids and its derivatives are demonstrated to be utilized for enhancing the effectiveness of the administered peptides for reasons that they "affect differentiation, maintenance and proliferation of many cell types" (lines 37-40) as experimental research further suggested that retinoic acid "increases the mitogenic activity of epidermal growth factor and its binding to its cell surface receptors in vitro" (lines 46-47). Exampe 1 on page 5, demonstrates the use of all-trans retinoic acid (tretinoin; claims 2, 7 and 8) in a "general cream formulation" along with a peptide that can be used in "[o]ptionally minor amounts of other commonly used cosmetic adjuvants, additives and the like" (lines 10-34). As a wound healing composition that can be utilized in cosmetic products, the purpose of the composition and method of use of the instant invention (skin enhancement) is encompassed by the reference. Thus Sheffield *et al.* demonstrates the ability and advantages of using retinoids with peptide compositions for cosmetic or therapeutic purposes.

18. It would have been *prima facia* obvious for one of ordinary skill in the art at the time the invention was made to make the cosmetic and/or dermatological polymer composition and method of WO 99/45941; and modify the composition and method of use to include retinoids such as all-trans retinoic acid as per the teachings of Kligman and Sheffield *et al.* The ordinary artisan would have been motivated to modify the method of WO 99/45941 in view of the use of retinoids as taught by Sheffield *et al.* for the purpose of improving the method of WO 99/45941 by benefits of using retinoid in cosmetic applications as taught by Kligman. From the teachings of the prior art, the ordinary artisan would have been taught that a retinoid, known for its ability to be utilized in cosmetic and therapeutic compositions for damaged skin (teachings of Kligman) and wound healing (teachings of Sheffield et al), was a beneficial skin enhancing agent to add to a cosmetic and/or dermatological composition for the purposes of enhancing or improving skin elasticity or turgor. The ordinary artisan would have also been taught that tretinoin was useful as the retinoid due to its effectiveness in low concentrations (teachings of Kligman, see examples 2-4, columns 8-10) and its benefits as a retinoid in such compositions as per the teachings of Kligman. Therefore, given the teachings of WO 99/45941 in view of Kligman and Sheffield et al as outlined above, it would have been prima facie obvious to the ordinary artisan at the time the invention was made to improve upon the method of WO 99/45941 and include the use of a retinoid as a skin enhancing agent for use in cosmetic and/or dermatological compositions and methods as taught by Kligman and Sheffield *et al.* The ordinary artisan would have had a reasonable expectation of success in the addition of retinoids with peptidic compositions because Sheffield et al demonstrates the use of other healing peptides specifically in a combined composition with retinoids for cosmetic and therapeutic applications. One of ordinary skill in the art would have been motivated to use the polymer of WO 99/45941 instead of those of Sheffield *et al.* because WO 99/45941 teaches that elastin derived peptides or homologous elastin peptides are the "best [in accomplishing] an increase in tissue elasticity and turgor" (p. 3, lines 13-15).

Response to Arguments

19. Applicants argue that none of the references teach or suggest the SEQ ID NOs: 45-54. This argument has been thoroughly reviewed but was not found persuasive for reasons already made of record in section # 9 above.

20. Applicants argue that WO 99/45941 fails to teach or suggest any retinoids, Kligman fails to suggest or teach any peptide, and Sheffield *et al.*, directed to wound healing, fails to teach or suggest substitution of the growth factors with any other peptide. These arguments are not found persuasive because as per the MPEP 2145, IV "One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co., Inc., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986)." As stated above, it would have been *prima facia* obvious for one of ordinary skill in the art at the time the invention was made to make the cosmetic and/or dermatological polymer composition and method of WO 99/45941; and modify the composition and method to include retinoids such as all-trans retinoic acid as per the teachings of Kligman and Sheffield *et al.* The ordinary artisan would have been motivated to modify the method of WO 99/45941 in view of the use of retinoids as taught by Sheffield *et al.* for the purpose of improving the method of the claims because of the benefits of using retinoid as taught by Kligman. Further Sheffield demonstrates the beneficial use of a retinoid and a peptide, in wound healing, for example. In addition, Sheffield was cited as an illustration of the state of the art at the time the invention was made – namely – that treatment compositions of retinoids and peptides were known and used in the art.

21. Further applicants argue that "there is no motivation or teaching to modify SEQ ID NO: 17 [...or] the use of these specific peptide sequences in combination with retinoids. This argument has been thoroughly reviewed but was not found persuasive for reasons already made of record in section # 11 above.

22. For these reasons and the reason reiterated above in the rejection, the rejection is maintained.

23. The rejection of claims 1-3, 5-8 and 10 is reiterated and maintained under 35 U.S.C. 103(a) as being unpatentable over Sandberg *et al.* (US Patent 6,069,129; filed 13-Mar-1998) in view of Kligman (US Patent 4,877,805; 31-Oct-1989) and Sheffield *et al.* (EP 0-339-0905-A2; 02-Nov-1989).

24. Sandberg *et al.* teaches SEQ ID NO: 17 and its use as a cosmetic or therapeutic formulation, preferably for enhancing skin (see SEQ ID NO: 17 of the reference). The reference does not teach the use of a retinoid as an additional skin-enhancing agent as required by the claims.

25. Kligman teaches the utilization of retinoids (claims 1 and 7) and its derivatives (tretinoin, an all-trans retinoic acid; claims 2 and 8) in therapeutic cosmetic compositions for application to improving damaged human skin (claim 6) in an effective amount that would not cause irritation (abstract). Examples of such applications are seen in all four experimental examples (columns 8-10) in which tretinoin is shown to be as effective as 13-cis retinoic acid in a lower concentration. The reference lists and details several benefits in the use of retinoid in an effective amount without causation of irritation, as seen below (columns 4-5, beginning on line 55):

a) Increased proliferative activity of epidermal cells. [...] The stimulation of cell growth also results in faster wound healing. [...] Application of the retinoid tretinoin, vitamin A, or all-trans retinoic acid before raising the blisters halves the healing time. [...]
b) Correction of abnormalities of differentiation. [...] Fewer growths appear and progression to cancer is halted. Normalizing of the epidermis results in a smoother, less dry and rough skin, [...] thus improving the topography of the skin. [...]
c) The metabolism of fibroblasts is increased [...thus resulting in] strengthening the physical foundation of the skin. [...and] effacement and prevention of fine wrinkles and lines.
d) Vascularity is increased.

Thus Kligman clearly demonstrates the ability and advantages of utilizing retinoids as skin-enhancing agents.

26. Sheffield *et al.* demonstrates the use of retinoids as an effective wound healing agent in compositions that comprise at least one peptide and a retinoid. The selected peptides are selected for mitogenic or angiogenic activity such as epidermal growth factors for their ability to

stimulate cell growth in order "to stimulate the wound healing process" (p. 2, lines 22-23). Retinoids and its derivatives are demonstrated to be utilized for enhancing the effectiveness of the administered peptides for reasons that they "affect differentiation, maintenance and proliferation of many cell types" (lines 37-40) as experimental research further suggested that retinoic acid "increases the mitogenic activity of epidermal growth factor and its binding to its cell surface receptors in vitro" (lines 46-47). Exampe 1 on page 5, demonstrates the use of all-trans retinoic acid (tretinoin; claims 2, 7 and 8) in a "general cream formulation" along with a peptide that can be used in "[o]ptionally minor amounts of other commonly used cosmetic adjuvants, additives and the like" (lines 10-34). As a wound healing composition that can be utilized in cosmetic products, the purpose of the composition and method of use of the instant invention (skin enhancement) is encompassed by the reference. Thus Sheffield *et al.* demonstrates the ability and advantages of using retinoids with peptide compositions for cosmetic or therapeutic purposes.

27. It would have been *prima facia* obvious for one of ordinary skill in the art at the time the invention was made to make the cosmetic and/or dermatological polymer composition and method of Sandberg *et al.*; and modify the composition and method of use to include retinoids such as all-trans retinoic acid as per the teachings of Kligman and Sheffield *et al.* The ordinary artisan would have been motivated to modify the method of Sandberg *et al.* in view of the use of retinoids as taught by Sheffield *et al.* for the purpose of improving the method of Sandberg *et al.* by benefits of using retinoid in cosmetic applications as taught by Kligman. From the teachings of the prior art, the ordinary artisan would have been taught that a retinoid, known for its ability to be utilized in cosmetic and therapeutic compositions for damaged skin (teachings of Kligman) and wound healing (teachings of Sheffield *et al*), was a beneficial skin enhancing agent to add to a cosmetic and/or dermatological composition for the purposes of enhancing or improving skin elasticity or turgor. The ordinary artisan would have also been taught that tretinoin was useful as the retinoid due to its effectiveness in low concentrations (teachings of Kligman, see examples 2-4, columns 8-10) and its benefits as a retinoid in such compositions as per the teachings of Kligman. Therefore, given the teachings of Sandberg *et al.* in view of Kligman and Sheffield *et al* as outlined above, it would have been prima facie obvious to the ordinary artisan at the time

the invention was made to improve upon the method of Sandberg *et al.* and include the use of a retinoid as a skin enhancing agent for use in cosmetic and/or dermatological compositions and methods as taught by Kligman and Sheffield *et al.* The ordinary artisan would have had a reasonable expectation of success in the addition of retinoids with peptidic compositions because Sheffield *et al* demonstrates the use of other healing peptides specifically in a combined composition with retinoids for cosmetic and therapeutic applications. One of ordinary skill in the art would have been motivated to use the polymer of Sandberg *et al.* instead of those of Sheffield *et al.* because Sandberg *et al.* teaches that elastin derived peptides or homologous elastin peptides are the "best [in accomplishing] an increase in tissue elasticity and turgor" (column 2, lines 35-40).

Response to Arguments

28. Applicants argue that none of the references teach or suggest the SEQ ID NOs: 45-54. This argument has been thoroughly reviewed but was not found persuasive for reasons already made of record in section # 9 above.

29. Applicants argue that Sandberg *et al.* fails to teach or suggest any retinoids, Kligman fails to suggest or teach any peptide, and Sheffield *et al.*, directed to wound healing, fails to teach or suggest substitution of the growth factors with any other peptide. These arguments are not found persuasive because as per the MPEP 2145, IV "One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co., Inc., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986)." As stated above, it would have been *prima facia* obvious for one of ordinary skill in the art at the time the invention was made to make the cosmetic and/or dermatological polymer composition and method of Sandberg *et al.*; and modify the composition and method to include retinoids such as all-trans retinoic acid as per the teachings of Kligman and Sheffield *et al.* The ordinary artisan would have been motivated to modify the method of Sandberg *et al.* in view of the use of retinoids as taught by Sheffield *et al.* for the purpose of improving the method of the claims because of the benefits of using retinoid as taught by Kligman. Further Sheffield demonstrates the beneficial use of a retinoid and a peptide, in wound

healing, for example. In addition, Sheffield was cited as an illustration of the state of the art at the time the invention was made – namely – that treatment compositions of retinoids and peptides were known and used in the art.

30. Further applicants argue that "there is no motivation or teaching to modify SEQ ID NO: 17 [...or] the use of these specific peptide sequences in combination with retinoids. This argument has been thoroughly reviewed but was not found persuasive for reasons already made of record in section # 11 above.

31. For these reasons and the reason reiterated above in the rejection, the rejection is maintained.

Conclusion

32. **MAINTAINED**

- Claims 1, 3, 5-8 and 10 are rejected under the judicially created doctrine of obviousness-type double patenting.
- Claims 1-3, 5-8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/45941 in view of Kligman and Sheffield *et al.*
- Claims 1-3, 5-8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sandberg *et al.* ('129) in view of Kligman and Sheffield *et al.*

No claim is allowed.

33. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Inquiries

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR § 1.6(d)). The central **Fax number is (703) 872-9306.**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monika B. Sheinberg, whose telephone number is (571) 272-0749. The examiner can normally be reached on Monday-Friday from 9 A.M to 5 P.M. If attempts to reach the examiner by telephone are unsuccessful, the primary examiner in charge of the prosecution of this case, Jehanne Sitton, can be reached at (571) 272-0752. If attempts to reach the examiners are unsuccessful, the examiner's supervisor, Gary Benzion, can be reached on (571) 272-0782.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Patent Analyst, Chantae Dessau, whose telephone number is (571) 272-0518, or to the Technical Center receptionist whose telephone number is (703) 308-0196.

February 6, 2004
Monika B. Sheinberg
Art Unit 1634

MBS

Jehanne Sitton
Primary Examiner
2/6/04